

Claims

What is claimed is:

1. A device for manufacturing an intravascular stent, comprising:
 - a base having a first surface and a second surface;
 - a laser cutting system attached to the first surface;
 - a linear motor attached to the second surface; and
 - a rotary motor coupled to the linear motor.
2. The device of claim 1, further comprising a workpiece coupled to the base.
3. The device of claim 2, further comprising one or more guides coupled to the workpiece.
4. The device of claim 2, wherein the workpiece is positioned below the linear motor.
5. The device of claim 2, further comprising a fluid that is passed onto or through the workpiece.
6. The device of claim 1, wherein the base includes granite.
7. The device of claim 1, wherein the linear motor is configured to move a workpiece horizontally.

8. The device of claim 1, wherein the linear motor is upside-down.
9. The device of claim 1, wherein the laser cutting system includes a laser/water jet hybrid.
10. The device of claim 1, wherein the rotary motor is positioned below the linear motor.
11. The device of claim 1, wherein the laser cutting system is configured to transmit laser energy in the horizontal direction.
12. The device of claim 11, further comprising a tuning mirror that reflects the horizontally transmitted laser energy from the horizontal direction to the vertical direction.
13. A device for cutting a stent from a tube, comprising:
 - a base member having a bottom surface;
 - a first motor having a top surface and a bottom surface, the bottom surface of the first motor being attached to the bottom surface of the base member;
 - a laser cutting device attached to the base member;
 - a rotary motor attached to the first motor; and
 - a tubular workpiece connected to the rotary motor.

14. The device of claim 13, further comprising one or more guides coupled to the base member.

15. The device of claim 13, further comprising one or more guides coupled to a base portion of the first motor.

16. The device of claim 13, further comprising one or more guides coupled to an interface plate of the first motor.

17. The device of claim 13, further comprising a fluid that is passed onto or through the workpiece.

18. The device of claim 13, wherein the base member includes granite.

19. The device of claim 13, wherein the first motor is configured to move a workpiece horizontally.

20. The device of claim 13, wherein the laser cutting system includes a laser/water jet hybrid.

21. The device of claim 13, wherein the rotary motor is positioned below the first motor.

22. The device of claim 13, wherein the workpiece is positioned below the first motor.

23. A method for manufacturing an intravascular stent; comprising the steps of:

providing a stent cutting device, the stent cutting device including a base, a laser cutting device attached to the base, a linear motor attached to the base, and a rotary motor coupled to the linear motor;

providing a tubular workpiece;

attaching the workpiece to the stent cutting device; and

transmitting laser energy from the laser cutting device to the tubular workpiece so as to cut the workpiece with the laser energy.

24. The method of claim 23, further comprising the step of directing fluid onto or through the workpiece.

25. A device for manufacturing an intravascular stent, comprising:

- a common base;
- a laser attached to the common base;
- one or more motors attached to the common base, wherein at least one of the one or more motors is up-side down; and
- a tubular workpiece coupled to the one or more motors.

26. The device of claim 25, wherein the workpiece includes a radiopaque material.

27. A device for manufacturing an intravascular stent, comprising:
a common base, the common base having a top surface and a bottom surface;
a laser attached to the top surface of the common base;
a first motor attached to the bottom surface of the common base, the first motor being disposed in an up-side down configuration;
a second motor attached to the first motor; and
a tubular workpiece coupled to either the first motor or the second motor.